ECOSYSTEM STATUS INDICATORS

Zooplankton

Bering Sea Zooplankton

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Last updated: September 2005

Summer zooplankton biomass data are collected in the eastern Bering Sea by the Hokkaido University research vessel T/S Oshoru Maru. The cruises began in 1954 and continue today. The time series (up to 1998) was re-analyzed by Hunt et al. (2002) and (Napp et al. 2002) who examined the data by oceanographic domain. The figure below updates the time series to 2004 and presents the data as biomass (wet weight) anomalies over the time period sampled. Up to 1998 there were no discernable trends in the time series for any of the four geographic domains (Napp et al. 2002). However, the updated time series depicts a strong decrease in biomass in the past 5 years (negative anomalies in these plots). What is remarkable is that the decrease occurred in all four domains (Figure 41). Part of the decrease in biomass over the middle shelf may be due to recent decreases in the abundance of *Calanus marshallae*, the only "large" copepod found in that area (Napp, in prep.). It is not clear what might be the cause of declines in other regions.

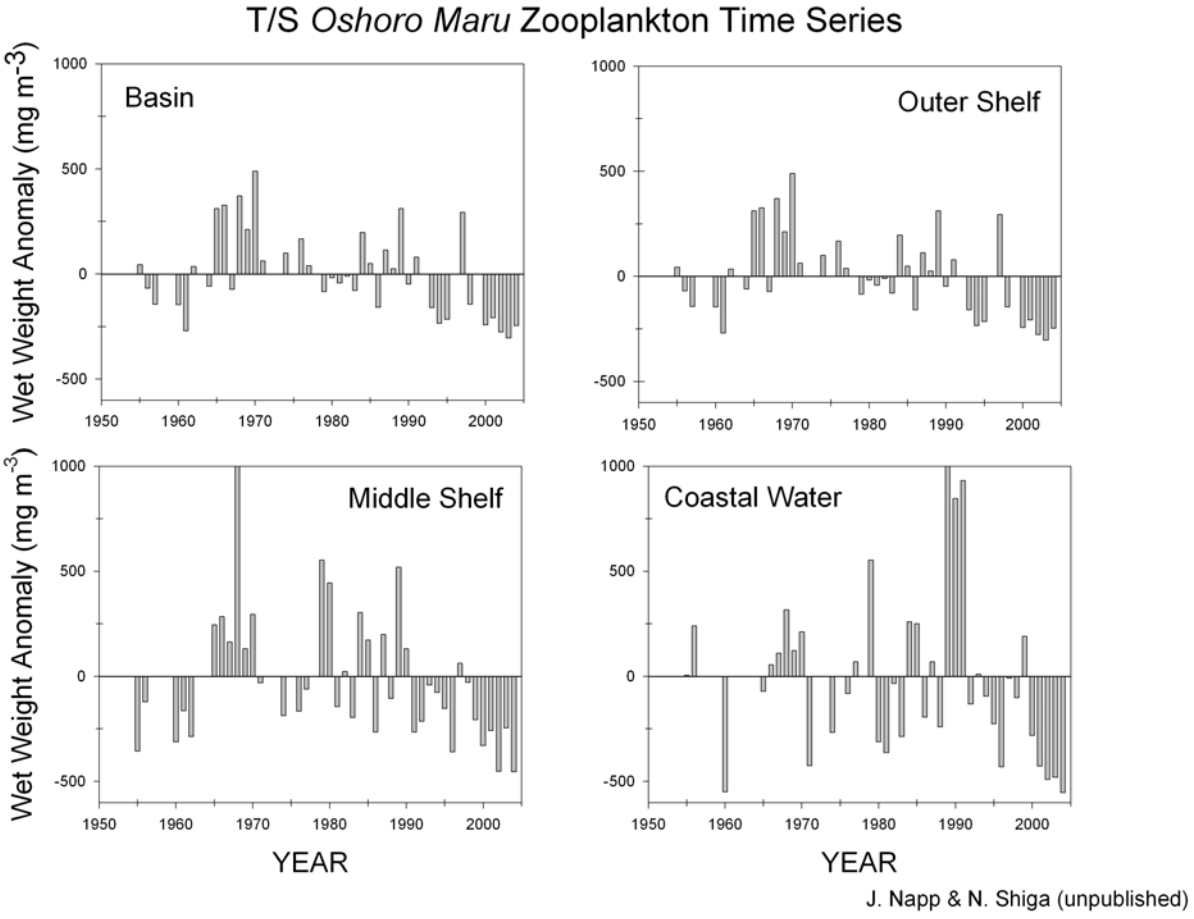

Figure 41. Zooplankton biomass anomalies at stations in regions of the deep basin of the Bering Sea and in the outer, middle and coastal domains of the southeastern Bering Sea shelf sampled during the T/S Oshoro Maru Summer Cruises. Data from 1977 to 1994 from Sugimoto and Tadokoro (1998). Data from 1995 to 2004 from Dr. N. Shiga.